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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/808,017	GUO ET AL.
	Examiner	Art Unit	
	DANIEL J. RYMAN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>10 January 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,2,4-6,8-35 and 37</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1,2,4-6,8-35 and 37</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>23 March 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some *   c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1, 2, 4-6, 8-35, and 37 have been considered

but are moot in view of the new ground(s) of rejection.

2.   The indicated allowability of claim 4 is withdrawn in view of the newly discovered

reference(s) to Bellows (USPN 7,283,562) and Fichou et al. (USPN 6,765,873). Rejections

based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-2, 4-6, 8-10, 14-20, 23, 31-33, and 37 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Odman (US 2003/0152059), of record, in view of Bellows (USPN

7,283,562) and Fichou et al. (USPN 6,765,873).

5.   Regarding claims 1, 14, 31, and 37, Odman discloses a method and device, the method

comprising the steps of and the device comprising means for: receiving from an entity a

bandwidth allocation request stipulating a requested bandwidth amount for a stream of the entity

for a current superframe (¶ [0079], where devices request channel time, i.e. send a bandwidth

allocation request, to a coordinator, see also ¶¶ [0122], [0140]-[0141]); determining a requested

bandwidth amount of the stream of the entity (¶ [0079], where the coordinator ascertains a

bandwidth amount for the requesting device); and determining an allocated bandwidth amount

for the stream of the entity based, at least in part, on the unserviced bandwidth amount (¶ [0147],

where the coordinator sends the requesting device a bandwidth allocation in response to the

request, and ¶ [00121], where the request includes a request for unserviced bandwidth and new

bandwidth, such that the bandwidth allocation will be based on the unserviced bandwidth amount

and the bandwidth allocation will be responsive to the bandwidth allocation request, see also ¶¶

[0122], [0140]-[0141]).

Odman does not expressly disclose determining an unserviced bandwidth amount from a

previous superframe. However, Odman does disclose that the requesting device may request

bandwidth for the entire amount of information stored in its transmit queue (¶ [0121]), where this

entire amount of information includes "the current amount of unsent frames (new frames or old

frames that have previously failed transmission)", see also ¶ [0122]). Odman also discloses that

a bandwidth request "will stay valid until the coordinator 310 supplies what was requested" (¶

[0163]). Thus, Odman discloses that there may be situations in which a requesting device will

make a bandwidth request for old frames, where the coordinator will have a previous request for

such frames already stored (¶¶ [0140]-[0141], where a device may send a first CTA request,

CTA1, for total channel time of CT1 + CT2, and when only CT1 is allocated, the requesting

device will send a second CTA request, CTA2, for total channel time of CT2; however,

coordinator will already have a request for CT2 pending when it receives CTA2 since CT2 was

previously requested but not fulfilled, see also ¶ [0122]). Therefore, in order to avoid double-

booking requests for a bandwidth for a given frame, it would have been obvious to one of

ordinary skill in the art at the time of the invention to ascertain an unserviced bandwidth amount

of the stream of the entity from a previous superframe.

Odman does not expressly disclose that the device comprises a processor and a media including processor-executable instructions or that the method is implemented using software. However, Examiner takes official notice that it is will known in the art to implement methods using software stored on media and executed by a processor since software is more easily reconfigured, and therefore more flexible, than hardware. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the device comprise a processor and a media including processor-executable instructions and to implement the method using software to perform the invention of Odman in a flexible manner.

Odman does not expressly disclose determining an allocated bandwidth amount for the stream based on a smoothing factor. Bellows teaches, in a bandwidth allocation system, smoothing a bandwidth allocation by using an Exponentially Weighted Averaging (col. 4, lines 46-52). Examiner takes official notice that Exponentially Weighted Averaging requires a smoothing factor. Fichou teaches, in a system for bandwidth allocation, smoothing traffic because it provides better utilization of network bandwidth (col. 12, line 65-col. 13, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine an allocated bandwidth amount for Odman's stream based on a smoothing factor, as taught by Bellows, because this provides better utilization of network bandwidth.

6.   Regarding claims 2, 32, and 33, Odman in view of Bellows in further view of Fichou discloses transmitting an allocation broadcast that includes the allocated bandwidth amount to the entity (Odman: ¶ [0141], where the coordinator sends a beacon to the device including a bandwidth allocation).

7.   Regarding claim 4, Odman in view of Bellows in further view of Fichou discloses

updating a reserved bandwidth amount of the stream of the entity for the current superframe

using a newly-arrived bandwidth amount (Odman: ¶ [0163], where the coordinator keeps track of

all currently unserviced bandwidth amounts), a previous reserved bandwidth amount of the

stream of the entity from the previous superframe (Odman: ¶ [0163], where the coordinator

keeps track of all currently unserviced bandwidth amounts), the smoothing factor which

modulates how quickly the reserved bandwidth amount changes from one superframe to another

(Bellows: col. 4, lines 46-52, where in Exponentially Weighted Averaging, a smoothing factor is

used to module how quickly a value changes from one period to the next).

8.   Regarding claim 5, Odman in view of Bellows in further view of Fichou discloses

receiving the bandwidth allocation request via a wireless communication (Odman: ¶ [0010],

where all devices are connected using wireless links).

9.   Regarding claim 6, Odman in view of Bellows in further view of Fichou discloses that

the action of ascertaining comprises an action of: retrieving from memory the unserviced

bandwidth amount (Odman: ¶ [0163], where if a coordinator retains a request until it is serviced,

then it must store the request in a "memory").

10.   Regarding claim 8, Odman in view of Bellows in further view of Fichou discloses that

the action of determining comprises an action of: assigning at least one bandwidth unit to the

unserviced bandwidth amount (Odman: ¶ [0163], where the unserviced bandwidth amount is

assigned bandwidth).

11.   Regarding claim 9, Odman in view of Bellows in further view of Fichou discloses that the at least one bandwidth unit comprises at least one time unit (Odman: ¶¶ [0140]-[0141], where the allocation is for time units).

12.   Regarding claim 10, Odman in view of Bellows in further view of Fichou discloses that the action of determining further comprises an action of: assigning at least one bandwidth unit to a reserved bandwidth amount of the stream of the entity (Odman: ¶¶ [0140]-[0141], where the coordinator assigns bandwidth to newly arrived requests, i.e. "reserved bandwidth").

13.   Regarding claim 15, Odman in view of Bellows in further view of Fichou discloses a transceiver that is adapted to transmit and receive wireless communications and is capable of facilitating the action of receiving from an entity a bandwidth allocation request (Odman: ¶ [0010], where all devices communicate over wireless links).

14.   Regarding claim 16, Odman in view of Bellows in further view of Fichou discloses that the entity comprises at least one of a user or another device (Odman: ¶ [0009], where the requesting devices are "a user or another device").

15.   Regarding claim 17, Odman in view of Bellows in further view of Fichou discloses that the requested bandwidth amount for the current superframe includes the unserviced bandwidth amount from the previous superframe without separately designating the unserviced bandwidth amount (Odman: ¶¶ [0121]-[0122], where the requested bandwidth is for all currently pending frames in the requesting device).

16.   Regarding claim 18, Odman in view of Bellows in further view of Fichou discloses that the ascertaining action comprises: retrieving the unserviced bandwidth amount from the one or

more media (Odman: ¶ [0163], where if a coordinator retains a request until it is serviced, then it must store the request in a "media").

17.   Regarding claim 19, Odman in view of Bellows in further view of Fichou discloses that the device is capable of operating under an IEEE 802.15.3 standard in accordance with a time division multiple access (TDMA) technology (Odman: ¶ [0018], where the devices operate under the IEEE 802.15.3 standard).

18.   Regarding claim 20, Odman in view of Bellows in further view of Fichou discloses segmenting the requested bandwidth amount into a newly-arrived bandwidth amount of the stream of the entity and the unserviced bandwidth amount (Odman: ¶¶ [0121]-[0122], where the requested bandwidth amount includes a newly arrived bandwidth amount and an unserviced bandwidth amount, such that the coordinator must segment the requested bandwidth amount); wherein the determining action comprises: assigning a number of bandwidth units equaling the unserviced bandwidth amount prior to assigning any bandwidth units to the newly-arrived bandwidth amount (Odman: ¶ [0163], where the oldest requests are assigned before the newer requests, such that the unserviced bandwidth is assigned before the newly-arrived bandwidth).

19.   Regarding claim 23, Odman in view of Bellows in further view of Fichou discloses that the processor-executable instructions are adapted to direct the device to perform further actions comprising: calculating the unserviced bandwidth amount for the previous superframe when determining an allocated bandwidth amount for the stream of the entity for the previous superframe (Odman: ¶¶ [0121]-[0122]), where the request includes "the current amount of unsent frames (new frames or old frames that have previously failed transmission)", and ¶ [0163], where a bandwidth request "will stay valid until the coordinator 310 supplies what was

requested", such that the coordinator needs to calculate the unserviced bandwidth to avoid double-booking the bandwidth requests); and retaining, from the previous superframe to the current superframe, the unserviced bandwidth amount using the one or more media for utilization in the action of ascertaining (Odman: ¶ [0163], where if a coordinator retains a request until it is serviced, then it must store the request in a "media").

20.   Claims 11-13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odman (US 2003/0152059), of record, in view of Bellows (USPN 7,283,562) and Fichou et al. (USPN 6,765,873) as applied to claim 10, and 14 above, and further in view of Wibowo et al. (US 2001/0043613), of record.

21.   Regarding claims 11 and 22, Odman in view of Bellows in further view of Fichou does not expressly disclose that the action of determining further comprises an action of: assigning at least one bandwidth unit to an overloaded bandwidth amount of the stream of the entity after the assigning of the at least one bandwidth unit to the unserviced bandwidth amount and to the reserved bandwidth amount. Wibowo discloses, in a system for allocating bandwidth, after allocating bandwidth to prioritized and normal requests, assigning unassigned slots to devices that still have bandwidth requests pending (¶¶ [0011],[0051]), where it is implicit that Wibowo does this to ensure that all available bandwidth is used to satisfy pending requests. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign at least one bandwidth unit to an overloaded bandwidth amount of the stream of the entity after the assigning of the at least one bandwidth unit to the unserviced bandwidth amount and to the reserved bandwidth amount to ensure that all available bandwidth is used to satisfy pending requests.

22.   Regarding claim 12, Odman in view of Bellows in further view of Fichou in further view of Wibowo discloses combining the at least one bandwidth unit assigned to the unserviced bandwidth amount, the at least one bandwidth unit assigned to the reserved bandwidth amount, and the at least one bandwidth unit assigned to the overloaded bandwidth amount into an allocated bandwidth amount comprising a time slot to be allocated to the stream of the entity for the current superframe (Odman: ¶ [0089], where a time slot assignment is sent to a requesting device in a beacon).

23.   Regarding claim 13, Odman in view of Bellows in further view of Fichou discloses detecting if an available bandwidth resource for the current superframe has been exhausted after the action of assigning at least one bandwidth unit to the reserved bandwidth amount of the stream of the entity (Odman: ¶¶ [0121]-[0122], where to have unallocated requests, the coordinator must keep track of the amount of allocated bandwidth to see if the amount of allocated bandwidth will exceed the amount of available bandwidth).

Odman in view of Bellows in further view of Fichou does not expressly disclose assigning at least one bandwidth unit to an overloaded bandwidth amount of the stream of the entity if bandwidth is still available. Wibowo discloses, in a system for allocating bandwidth, after allocating bandwidth to prioritized and normal requests, assigning unassigned slots to devices that still have bandwidth requests pending (¶¶ [0011],[0051]), where it is implicit that Wibowo does this to ensure that all available bandwidth is used to satisfy pending requests. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign at least one bandwidth unit to an overloaded bandwidth amount of the stream of the entity after the assigning of the at least one bandwidth unit to the unserviced bandwidth

amount and to the reserved bandwidth amount to ensure that all available bandwidth is used to satisfy pending requests.

24.   Claims 21 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odman (US 2003/0152059), of record, in view of Bellows (USPN 7,283,562) and Fichou et al. (USPN 6,765,873) in further view of Crisler et al. (USPN 5,594,738), of record.

25.   Regarding claim 21, Odman in view of Bellows in further view of Fichou does not expressly disclose assigning at least one bandwidth unit to an unserviced bandwidth amount of another stream of another entity prior to assigning a bandwidth unit to the newly-arrived bandwidth amount of the stream of the entity. Crisler teaches, in a system for allocating time slots, that if a previous request for bandwidth cannot be fulfilled, then the granting device will queue these ungranted requests in a priority queue such that these ungranted requests will be the first to be serviced in the next grant of bandwidth (col. 8, lines 21-42, see also col. 4, lines 35-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign bandwidth amounts to the ascertained previous unserviced bandwidth amounts prior to the current newly-arrived bandwidth amounts so that the coordinator will assign all currently available bandwidth by first servicing unserviced bandwidth requests before proceeding with the newly-arrived bandwidth requests.

26.   Regarding claim 34, Odman in view of Bellows in further view of Fichou discloses segmentation means for segmenting respective current requested bandwidth amounts into respective current newly-arrived bandwidth amounts and the ascertained respective previous unserviced bandwidth amounts, as outlined in the rejection of claims 1, 14, 31, and 36. Odman in view of Bellows in further view of Fichou does not expressly disclose that the determination

means comprises: assignment means for assigning bandwidth amounts to the ascertained

previous unserviced bandwidth amounts prior to the current newly-arrived bandwidth amounts.

Crisler teaches, in a system for allocating time slots, that if a previous request for bandwidth

cannot be fulfilled, then the granting device will queue these ungranted requests in a priority

queue such that these ungranted requests will be the first to be serviced in the next grant of

bandwidth (col. 8, lines 21-42, see also col. 4, lines 35-39). Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to have the determination

means comprise: assignment means for assigning bandwidth amounts to the ascertained previous

unserviced bandwidth amounts prior to the current newly-arrived bandwidth amounts so that the

coordinator will assign all currently available bandwidth by first servicing unserviced bandwidth

requests before proceeding with the newly-arrived bandwidth requests.

27.   Claims 24, 25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Odman (US 2003/0152059), of record, in view of Crisler et al. (USPN 5,594,738), of record, in

further view of Bellows (USPN 7,283,562) and Fichou et al. (USPN 6,765,873).

28.   Regarding claim 24, Odman discloses a method for bandwidth allocation, the method

comprising: receiving from multiple entities for multiple streams current bandwidth allocation

requests stipulating current requested bandwidth amounts for the multiple streams of the multiple

entities (¶ [0079], where devices request channel time, i.e. send a bandwidth allocation request,

to a coordinator, see also ¶¶ [0122], [0140]-[0141]); assigning bandwidth units to the previous

unserviced bandwidth amounts (¶ [0147], where the coordinator sends the requesting device a

bandwidth allocation based on the request, and ¶ [00121], where the request includes a request

for unserviced bandwidth and new bandwidth, such that the bandwidth allocation will include the

unserviced bandwidth amount, see also ¶¶ [0122], [0140]-[0141]); and detecting if available

bandwidth units have been consumed in the assigning (¶¶ [0121]-[0122], where the fact that

some requests will go unfulfilled means that the coordinator must keep track of the amount of

bandwidth units that have been consumed in the assigning, i.e. the coordinator must know when

to stop assigning because there is no more available bandwidth).

Odman does not expressly disclose segmenting the current requested bandwidth amounts

into current newly-arrived bandwidth amounts and previous unserviced bandwidth amounts

associated with the multiple streams of the multiple entities. However, Odman does disclose that

the requesting device may request bandwidth for the entire amount of information stored in its

transmit queue (¶ [0121]), where this entire amount of information includes "the current amount

of unsent frames (new frames or old frames that have previously failed transmission)", see also ¶

[0122]). Odman also discloses that a bandwidth request "will stay valid until the coordinator 310

supplies what was requested" (¶ [0163]). Thus, Odman discloses that there may be situations in

which a requesting device will make a bandwidth request for old frames, where the coordinator

will already have a previous request for such frames already stored (¶¶ [0140]-[0141], where a

device may send a first CTA request, CTA1, for total channel time of CT1 + CT2, and when

only CT1 is allocated, the requesting device will send a second CTA request, CTA2, for total

channel time of CT2; however, coordinator will already have a request for CT2 pending when it

receives CTA2 since CT2 was previously requested but not fulfilled, see also ¶ [0122]).

Therefore, in order to avoid double-booking requests for a bandwidth for a given frame, it would

have been obvious to one of ordinary skill in the art at the time of the invention to segment the

current requested bandwidth amounts into current newly-arrived bandwidth amounts and

previous unserviced bandwidth amounts associated with the multiple streams of the multiple

entities.

Odman does not expressly disclose that if available bandwidth units have not been

consumed in the assigning, assigning the available bandwidth units to the current newly-arrived

bandwidth amounts according to current reserved bandwidth amounts for the multiple streams of

the multiple entities. Crisler teaches, in a system for allocating time slots, that if a previous

request for bandwidth cannot be fulfilled, then the granting device will queue these ungranted

requests in a priority queue such that these ungranted requests will be the first to be serviced in

the next grant of bandwidth (col. 8, lines 21-42, see also col. 4, lines 35-39). Therefore, it would

have been obvious to one of ordinary skill in the art at the time of the invention to assign the

available bandwidth units to the current newly-arrived bandwidth amounts according to current

reserved bandwidth amounts for the multiple streams of the multiple entities if available

bandwidth units have not been consumed in the assigning, so that the coordinator will assign all

currently available bandwidth by first servicing unserviced bandwidth requests before

proceeding with the newly-arrived bandwidth requests.

Odman in view of Crisler does not expressly disclose that the assigning is done based on

a smoothing factor. Bellows teaches, in a bandwidth allocation system, smoothing a bandwidth

allocation by using an Exponentially Weighted Averaging (col. 4, lines 46-52). Examiner takes

official notice that Exponentially Weighted Averaging requires a smoothing factor. Fichou

teaches, in a system for bandwidth allocation, smoothing traffic because it provides better

utilization of network bandwidth (col. 12, line 65-col. 13, line 3). Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to assign bandwidth based

on a smoothing factor, as taught by Bellows, in the system of Odman and Crisler because this

provides better utilization of network bandwidth.

29.   Regarding claim 25, Odman in view of Crisler in further view of Bellows in further view

of Fichou discloses if available bandwidth units have been consumed in the assigning,

calculating current unallocated bandwidth amounts for the multiple streams of the multiple

entities and noting the current unallocated bandwidth amounts for subsequent use in segmenting

subsequent requested bandwidth amounts (Odman: ¶ [0163], where the coordinator keeps track

of all currently unserviced bandwidth amounts).

30.   Regarding claim 27, Odman in view of Crisler in further view of Bellows in further view

of Fichou discloses updating previous reserved bandwidth amounts for the multiple streams of

the multiple entities to create the current reserved bandwidth amounts using at least the current

newly-arrived bandwidth amounts (Odman: ¶ [0163], where the coordinator keeps track of all

currently unserviced bandwidth amounts).

31.   Regarding claim 28, Odman in view of Crisler in further view of Bellows in further view

of Fichou discloses calculating current unserviced bandwidth amounts for the multiple streams of

the multiple entities by deducting assigned bandwidth units of one or more assignments from the

current requested bandwidth amounts (Odman: ¶ [0163], where the unserviced bandwidth

amounts are, by definition, the bandwidth units requested less the bandwidth units allocated).

32.   Regarding claim 29, Odman in view of Crisler in further view of Bellows in further view

of Fichou discloses that the bandwidth units comprise time units (Odman: ¶ [0140], where the

bandwidth units are requests for channel time); and further comprising: combining assigned

bandwidth units of one or more assignments into allocated time slots for the multiple streams of

the multiple entities (Odman: ¶¶ [0140]-[0141], where the coordinator combines the bandwidth

units into assignments of time slots, see also ¶ [0089]); and sending positions and durations of

the allocated time slots for the multiple streams to the multiple entities in at least one allocation

broadcast (Odman: ¶ [0089], where the coordinator sends assignments of time slots to the

requesting devices in a beacon).

33.   Regarding claim 30, Odman in view of Crisler in further view of Bellows in further view

of Fichou does not expressly disclose one or more processor-accessible media comprising

processor- executable instructions that, when executed, direct a device to perform the method.

However, Examiner takes official notice that it is will known in the art to implement methods

using software stored on media and executed by a processor since software is more easily

reconfigured, and therefore more flexible, than hardware. Therefore, it would have been obvious

to one of ordinary skill in the art at the time of the invention to implement the method using

software to perform the invention of Odman in view of Bellows in further view of Fichou in

further view of Chrisler in a flexible manner.

34.   Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odman (US

2003/0152059), of record, in view of Crisler et al. (USPN 5,594,738), of record, in further view

of Bellows (USPN 7,283,562) and Fichou et al. (USPN 6,765,873) as applied to claims 25 and

34 above, and further in view of Wibowo et al. (US 2001/0043613), of record.

35.   Regarding claim 26, Odman in view of Crisler in further view of Bellows in further view

of Fichou discloses detecting if remaining available bandwidth units have been consumed in the

two assignings (Odman: ¶¶ [0121]-[0122], where to have unallocated requests, the coordinator

must keep track of the amount of allocated bandwidth to see if the amount of allocated

bandwidth will exceed the amount of available bandwidth).

Odman in view of Chrisler in further view of Bellows in further view of Fichou does not

expressly disclose assigning the remaining available bandwidth units to current overloaded

bandwidth amounts of the multiple streams of the multiple entities in ascending order if

bandwidth is still available. Wibowo discloses, in a system for allocating bandwidth, after

allocating bandwidth to prioritized and normal requests, assigning unassigned slots to devices

that still have bandwidth requests pending in an assending order (¶¶ [0011],[0051], where

bandwidth is assigned to those devices that have more "credit" which creates an "order" in the

assignments), where it is implicit that Wibowo does this to ensure that all available bandwidth is

used to satisfy pending requests. Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention to assign the remaining available bandwidth units to current

overloaded bandwidth amounts of the multiple streams of the multiple entities in ascending order

if unassigned bandwidth remains after the first two assignings to ensure that all available

bandwidth is used to satisfy pending requests.

36.   Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odman (US

2003/0152059), of record, in view of Bellows (USPN 7,283,562) and Fichou et al. (USPN

6,765,873) in further view of Crisler et al. (USPN 5,594,738), of record, as applied to claims 25

and 34 above, and further in view of Wibowo et al. (US 2001/0043613), of record.

37.   Regarding claim 35, Odman in view of Bellows in further view of Fichou in further view

of Crisler discloses that the determination means further comprises: detection means for

detecting if a time resource of assignable bandwidth amounts is exhausted wherein the

assignment means ceases assigning bandwidth amounts if the time resource of assignable

bandwidth amounts is detected as being exhausted by the detection means (Odman: ¶¶ [0121]-

[0122], where to have unallocated requests, the coordinator must keep track of the amount of

allocated bandwidth to see if the amount of allocated bandwidth will exceed the amount of

available bandwidth).

Odman in view of Bellows in further view of Fichou in further view of Crisler does not

expressly disclose that the assignment means further assigns available bandwidth amounts to the

current newly-arrived bandwidth amounts prior to respective current overloaded bandwidth

amounts of the respective streams. Wibowo discloses, in a system for allocating bandwidth,

after allocating bandwidth to prioritized and normal requests, assigning unassigned slots to

devices that still have bandwidth requests pending (¶¶ [0011],[0051]), where it is implicit that

Wibowo does this to ensure that all available bandwidth is used to satisfy pending requests.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to assign available bandwidth amounts to the current newly-arrived bandwidth

amounts prior to respective current overloaded bandwidth amounts of the respective streams to

ensure that all available bandwidth is used to satisfy pending requests with current reserved

requests having priority over overloaded bandwidth requests.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DANIEL J. RYMAN whose telephone number is (571)272-3152.

The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                    Daniel J. Ryman
                                                    Primary Examiner
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/Daniel J. Ryman/
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